

Application No. 10/711,364  
Technology Center 1775  
Amendment dated September 21, 2006  
Reply to Office Action dated June 21, 2006

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### REMARKS

In the Office Action, the Examiner reviewed claims 1-43 of the above-identified US Patent Application, with the result that claims 20-43 were withdrawn from consideration due to a restriction requirement, and claims 1-19 were rejected. In response, Applicants have amended the specification and claims as set forth above. More particularly:

The specification has been amended to update the status of several U.S. patent applications that are discussed in the specification and have been issued or published since the filing of the present application.

Independent claims 1 and 12 have been amended to specify that the interior regions (40,50) of the columns (34,44) comprise multiple first portions substantially normal to the surface of the substrate (30) and multiple second portions separated by the first portions and not normal to the surface of the substrate (30). Support for these amendment can be found in Applicants' Figures 2, 3, 5, and 6, and the discussion in the specification relating to Figures 2 and 3.<sup>2</sup>

Claims 20-43 have been canceled without prejudice to Applicants in

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<sup>2</sup> According to MPEP §2163 II.A.3(a), "drawings alone may provide a 'written description' of an invention as required by [35 USC §112, first paragraph]," and "[i]n those instances where a visual representation can flesh out words, drawings may be used in the same manner and with the same limitations as the specification." (Citations omitted).

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view of the above-noted restriction requirement, for the purpose of reducing and simplifying the issues remaining in the examination of Applicants' application.

Applicants believe that the above amendments do not present new matter. Favorable reconsideration and allowance of remaining claims 1-19 are respectfully requested in view of the above amendments and the following remarks.

#### **Rejections under 35 USC §102**

Independent claims 1 and 12 and their dependent claims 2-11 and 13-19 were rejected under 35 USC §102(b) as being anticipated by International Publication No. WO99/35306 to Marijnissen et al. and by U.S. Patent No. 5,876,860 to Marijnissen et al.

Applicants note that the international publication to Marijnissen et al. cites priority to and is described as a continuation-in-part of U.S. Patent Application Serial No. 08/987,354, which issued as the cited U.S. patent to Marijnissen et al. Applicants' undersigned representative has reviewed these documents side by side, and believes that the only differences between the disclosures of these documents is Figures 7, 8, and 9 in the International Publication (which are not present in the U.S. patent) and the discussion

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relating thereto (e.g., page 5, lines 7-14, page 7, line 30-page 8, line 4, page 9, lines 20-26, page 22, line 25-page 24, line 4, and the claims). The explanations for the 35 USC §102 rejections do not cite any of the passages unique to the International Publication. Therefore, for convenience the following discussion will simply refer to "Marijnissen" in reference to both International Publication No. WO99/35306 to Marijnissen et al. and U.S. Patent No. 5,876,860 to Marijnissen et al., as if they were one and the same.

Applicants respectfully request reconsideration of the §102 rejections in view of the amendments presented above as well as the following comments.

As noted in §2131 of the MPEP:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the ...claim. The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e. identity of terminology is not required. (Citations omitted).

Each of Applicants' amended independent claims 1 and 12 requires that "the interior regions [40,50] of the columns [34,44] compris[e] multiple first portions substantially normal to the surface of the substrate [30] and multiple second portions separated by the first portions and not normal to the surface of the

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substrate [30].” In contrast, though Marijnissen discloses coatings 344 and 444 in Figures 3C and 3D with grain columns 348 and 448 having layers 346A and 446B, respectively, in which the columns 348 and 448 are normal to the surface (not shown) on which the coatings 344 and 444 were deposited, Applicants believe that Marijnissen does not disclose or fairly suggest a coating having an interior region “comprising multiple first portions substantially normal to the surface of the substrate and multiple second portions separated by the first portions and not normal to the surface of the substrate” (emphasis added). Instead, Marijnissen merely discloses that “[o]ne or more additional layers may be disposed proximate the first layer 346A and/or the second layer 346B with similar or different grain orientation directions and thicknesses.” (See the International Publication to Marijnissen et al. at page 14, lines 25-26, and the U.S. Patent to Marijnissen et al. at column 10, lines 23-26.) The deposition techniques disclosed in Marijnissen’s Figures 4A and 4B also fail to suggest that the additional limitations now recited in Applicants’ amended claims 1 and 12 are within the scope of Marijnissen’s disclosure. (Applicants’ also believe that the additional Figures 7 through 9 in the International Publication to Marijnissen et al. also fail to disclose or suggest the additional limitations now recited in Applicants’ amended claims 1 and 12.)

In view of the above, Applicants believe that Marijnissen does not

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anticipate independent claims 1 or 19 nor any of their dependent claims under the test for anticipation set forth at MPEP §2131, and therefore respectfully request withdrawal of the rejections under 35 USC §102.

### **Rejections under 35 USC §103**

Dependent claims 11 and 19 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,455,173 to Marijnissen et al. in view of U.S. Patent No. 6,126,400 to Nichols et al. (Nichols), and as being unpatentable over U.S. Patent No. 5,876,860 to Marijnissen et al. (cited under the §102 rejection) in view of Nichols.

Applicants note that U.S. Patent No. 6,455,173 to Marijnissen et al. cites the International Publication to Marijnissen et al. as priority, and is described as a continuation-in-part of U.S. Patent No. 5,876,860 to Marijnissen et al. Therefore, the following discussion will again simply refer to "Marijnissen" in reference to both U.S. Patent No. 6,455,173 to Marijnissen et al. and U.S. Patent No. 5,876,860 to Marijnissen et al., as if they were one and the same.

Nichols was applied for its disclosure that "the ceramic coating is applied to the leading edge of airfoils . . . ." In view of the above remarks concerning the differences between Marijnissen and Applicants' invention recited in independent claims 1 and 12 (from which claims 11 and 19 depend,

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respectively), Applicants believe that Nichols cannot be said to supplement the teachings of Marijnissen in order to arrive at Applicants' invention. Applicants therefore respectfully request withdrawal of the rejections to the claims under 35 USC §103(a).

**Closing**

In view of the above, Applicants believe that all rejections to their claims have been overcome, and that] the claims define patentable novelty over all the references, alone or in combination, of record. It is therefore respectfully requested that this patent application be given favorable reconsideration.

Should the Examiner have any questions with respect to any matter now of record, Applicants' representative may be reached at (219) 462-4999.

Respectfully submitted,

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